



## Air Temperature Measurement Procedures

Note: To increase the accuracy of your measurements, it is advised that you use a calibration thermometer. A thorough calibration procedure is provided in the GLOBE Max/Min/Current Air Temperature Protocol (pdf). If you are a GLOBE School you may want to use the entire GLOBE Max/Min/Current Air Temperature Protocol and Atmosphere Investigation Data Sheet (pdf).

**Purpose:** You will record air temperature at intervals during the day and record the maximum and minimum air temperature for the preceding 24 hours. Maintaining an accurate record of temperature change during the day and the maximum and minimum temperature will allow you to compare temperature variations with events like snowstorms and the formation of particular snowflake types. A climagraph, a graph of temperature variation through the year, is a valuable way to compare climates from region to region.

**Materials:** You may be using either a liquid filled max/min thermometer or a digital thermometer. The operation of the thermometer may be slightly different, but the basic instructions remain the same.

### Procedure:

1. All weather data should be recorded at the same time at least once every day. It is ideal to record weather data about every hour – and more frequently during snowstorms.
2. Record the time and date on the Weather Watch Field Data Sheet.
3. If you are using the liquid max/min thermometer, position yourself so that your eye is level with the mercury in the thermometer. Read the level of the mercury on the maximum side of the thermometer to the nearest 0.5°C. If you are using a digital thermometer, read the current temperature to the nearest 0.5°C.
4. Record this reading as the Current Temperature on the Weather Watch Field Data Sheet.
5. If this is the first temperature recording for your site for the day, read and record the maximum and minimum temperature. (If you don't know, check with your teacher.)
  - For Digital Thermometer
    - Read the max/min temperatures
    - Record on the Weather Watch Field Data Sheet
    - Reset the max/min setting
  - For Liquid Thermometer

- Read the bottom of the indicator on the maximum side of the thermometer to the nearest 0.5°C
  - Record this reading as the maximum temperature on the Weather Watch Field Data Sheet.
  - Read the bottom of the indicator on the minimum side of the thermometer to the nearest 0.5°C. Note that the temperature scale is upside down.
  - Record this reading as the minimum temperature on the Weather Watch Field Data Sheet.
  - Reset max/min indicators. Use the magnet to gently move the maximum and minimum indicators down until they just touch the mercury.
6. If your school is a registered Winter's Story Weather Station, return to the classroom and submit Weather Watch data to your site.